

# Work Order ID 90301

\*90301\*

Page 1

September-17-12 8:53:21 AM

Item ID: D4018-5

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Rib

Start Date: 9/17/12 Start Qty: 6.00

\*6\*

Cust Item ID:

Required Date: 10/12/12 Req'd Qty: 6.00

\*6\*

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12-09-13 Tooling:

Date:

Run Start \*NR1\*

QC: \_\_\_\_\_

Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_

Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4018	C

100 0.00

\*100\*

Large Fab

Memo

0.00

Large Fab

1- Cut tube as per dwg D4018  
2- debur and remove identification markings

27x SL 13.04.23

110

QC6- Inspect dimensions to drawing

0.00

\*110\*

QC

Memo

0.00

Quality Control

CP 13.4.23 27x

120

Identify as per dwg & Stock Location: \_\_\_\_\_

0.00

\*120\*

Packaging

Backit cell  
Memo

0.00

Packaging

27x SL 13.04.23

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
<b>Root Cause</b>	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											

FAULT CATEGORY				
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other	

**\*90301\***

September-17-12 8:53:21 AM

**Accept**

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 9/17/12      **Start Qty:** 6.00      **\*6\***

**Cust Item ID:**

**Required Date:** 10/12/12      **Req'd Qty:** 6.00      **\*6\***

**Customer:**

**Reference:**

Run Start \*NR1\*

**Approvals:** \_\_\_\_\_ **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

## Operation Description

### Set Up/ Run Hours

**Tool ID****Tool #**

### Plan Code

**Accept  
Qty**

Reject  
QtyReject  
Number

**Insp.  
Stamp**

130

QC21- Final Inspection - Work Order Release

0.00

**\*130\***

QC

## Memo

0.00

## Quality Control

Qty	Qty	Number	Stamp
	13/4/24		

MF

13-4-26

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>						
<b>Root Cause</b>	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector			
Doc/Data <input type="checkbox"/>												
Equip/Tooling <input type="checkbox"/>												
Operator <input type="checkbox"/>												
Material <input type="checkbox"/>												
Setup <input type="checkbox"/>												
Other <input type="checkbox"/>												
Process <input type="checkbox"/>												
Supplier <input type="checkbox"/>												
Training <input type="checkbox"/>												
Unapproved <input type="checkbox"/>												
<b>FAULT CATEGORY</b>												
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  _____ _____ _____		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other _____ _____ _____	

# Picklist Print

September-17-12 8:53:21 AM

Page 1

Work Order ID: 90301

Parent Item: D4018-5

Parent Item Name: Rib

Start Date: 9/17/12

Required Date: 10/12/12

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP RevA: new issue DD 09.11.26 verified by:EC IPP Rev:B as per dwg revA 10.03.15  
verified by:EC IPP Rev:C as per dwg RevB DD 10.04.16 verified by:EC IPP  
Rev:D as per dwg revC DD 10.08.18 verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TS0.500W.049 Square Tubing		Purchased	No			100	f	1,229.0001	0.5558	3.5103156			

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
MAT018	643.930134	
122413	643.930134	
MAT034	585.0700153	
118460	0.00001534	
121808	0.07	
122938	585	

4125068 → 16 ft

BY 13.04.23

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

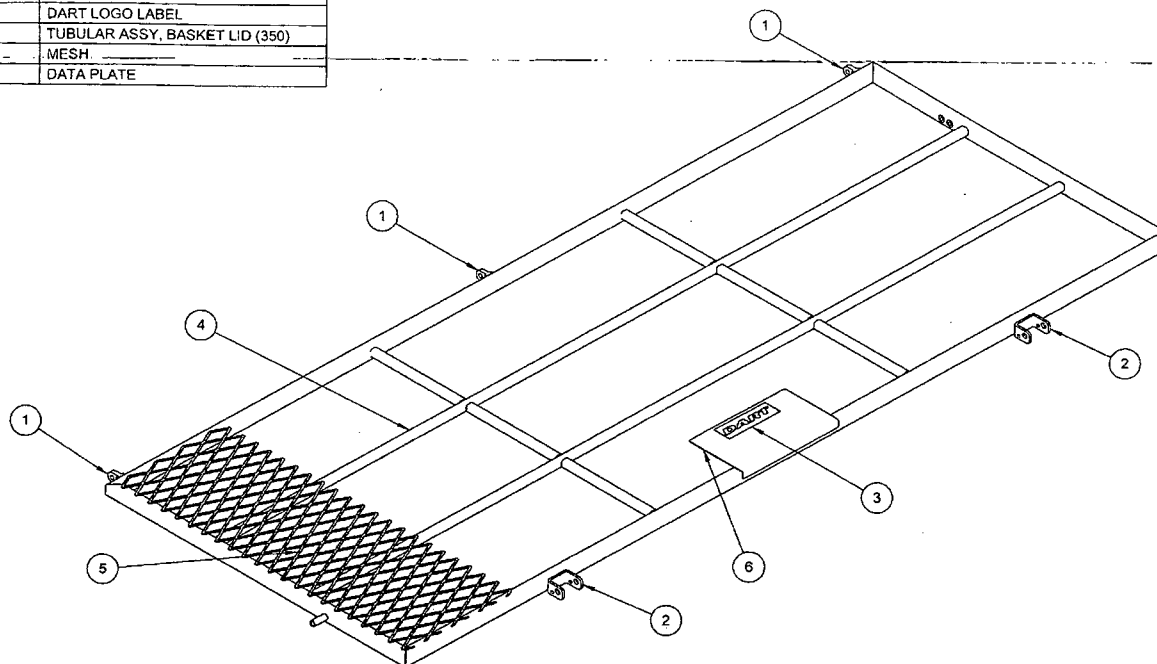
QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
<b>Root Cause</b>	<b>Date</b>	<b>Step</b>	<b>Qty</b>	<b>Description of work order update or Non-conformance</b>	<b>Initial Chief Eng</b>	<b>Action Description</b>	<b>Sign &amp; Date</b>	<b>Verification</b>	<b>QC Inspector</b>		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY				
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other	

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4018-041	SHORT BASKET LID ASSY (350)
1	3	D4016-3	HINGE HALF, LID
2	2	D2581	MOUNTING BRACKET
3	1	D2728-3	DART LOGO LABEL
4	1	D4018-101	TUBULAR ASSY, BASKET LID (350)
5	1	D4020-7	MESH
6	1	D4021-3	DATA PLATE



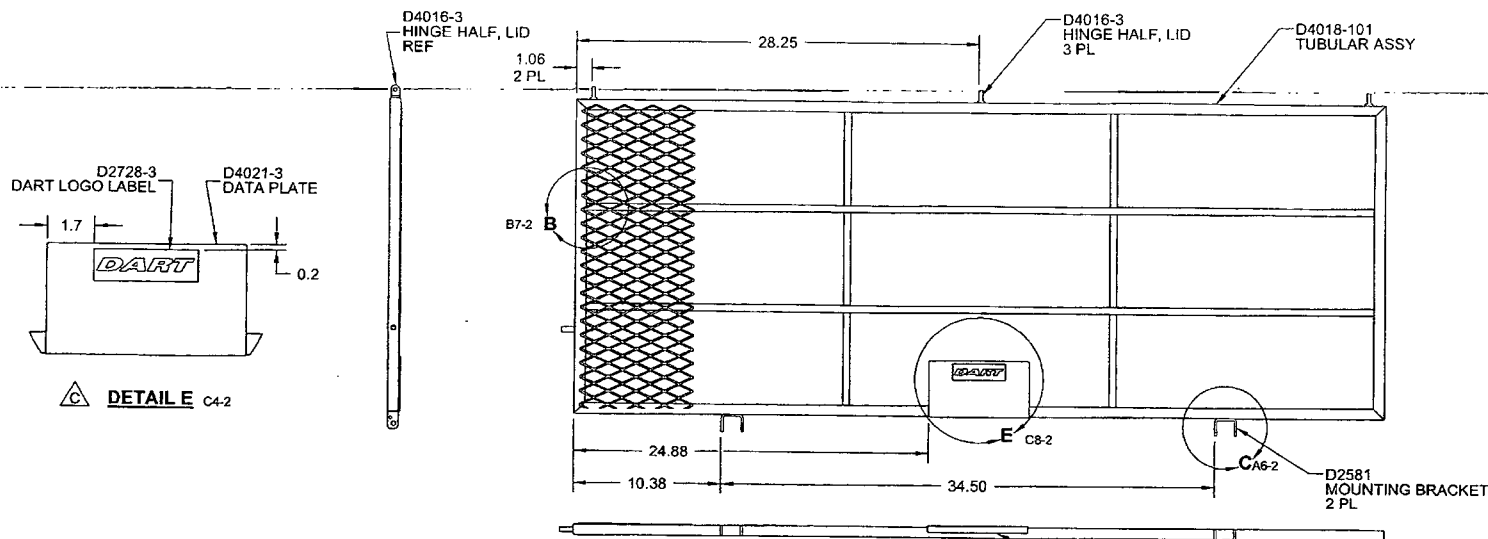
**D4018-041 SHORT BASKET LID ASSY (350)**  
(MESH SHOWN LOCALLY FOR CLARITY)

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 90301 MLJ  
12-09-17

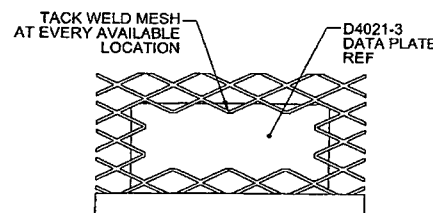
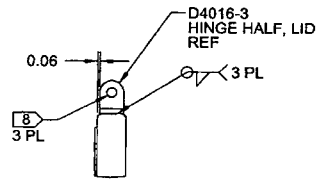
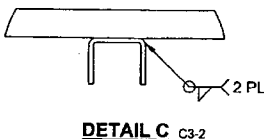
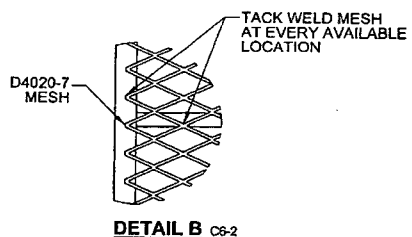
**RELEASED**  
10.08.12  
ECW 10-96

C	REMOVED D4086-232, UPDATED DETAIL E ACCORDINGLY (C8-2). REASON: NOW INSTALLED BY OPERATORS PER D350-007-2 REV. C AND D350-607-3 REV. A.	MB	10.08.05
B	BOM: INSERTED QTY 1 D2728-3 AS ITEM 3 & QTY 1 D4086-232 PLACARD AS ITEM 7. ITEMS RENUMBERED AS REQ. SHEET 2, NOTES: PAINT SPEC ADDED & NOTE 7 & 8 REVISED. (84-2) FRONT VIEW ADDED, WELDING SYMBOLS REVISED. DETAIL VIEW E ADDED (C4-2)&(C82). SIDE VIEWS ADDED (C1-4)&(D1-4).	JPH	10.03.25
A	NEW ISSUE	JPH	10.03.04
REV.	DESCRIPTION	BY	DATE
DESIGN	AKS		
DRAWN	SC		
CHECKED	SC		
MFG. APPR.	AKS		
APPROVED	AKS		
DE APPR.	AKS		
DATE	10.08.05		
<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>D4018</b> REV. C SHEET 1 OF 4 TITLE <b>SHORT BASKET LID ASSY (350)</b> SCALE NTS <small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>			

90301



**DETAIL E** C4-2



**D4018-041 SHORT BASKET LID ASSY (350)**  
(MESH SHOWN LOCALLY FOR CLARITY)

RELEASED  
10.08.12

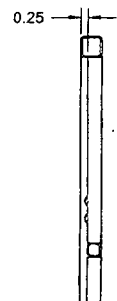
- NOTES:**
- 1) MATERIAL: N/A
  - 2) FINISH: POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3  
APPLY BLACK ANTI-SKID PAINT TO OUTSIDE SURFACE OF MESH PER DART QSI 005 4.4
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: N/A
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 14.5 lbs APPROX
  - 8) MASK HOLES PRIOR TO FINISHING
  - 9) WELD PER DART QSI 004

DESIGN	ALS	<b>DART AEROSPACE LTD</b>	
DRAWN	h	HAWKESBURY, ONTARIO, CANADA	
CHECKED	SC	DRAWING NO.	REV. C
MFG. APPR.	SC	D4018	SHEET 2 OF 4
APPROVED	ALS	TITLE	SCALE
DE APPR.	ALS	<b>SHORT BASKET LID ASSY (350)</b> NTS	
DATE	10.08.05	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. NOISE IS FOR THE EXCLUSIVE USE OF THE CUSTOMER. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			



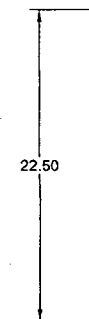
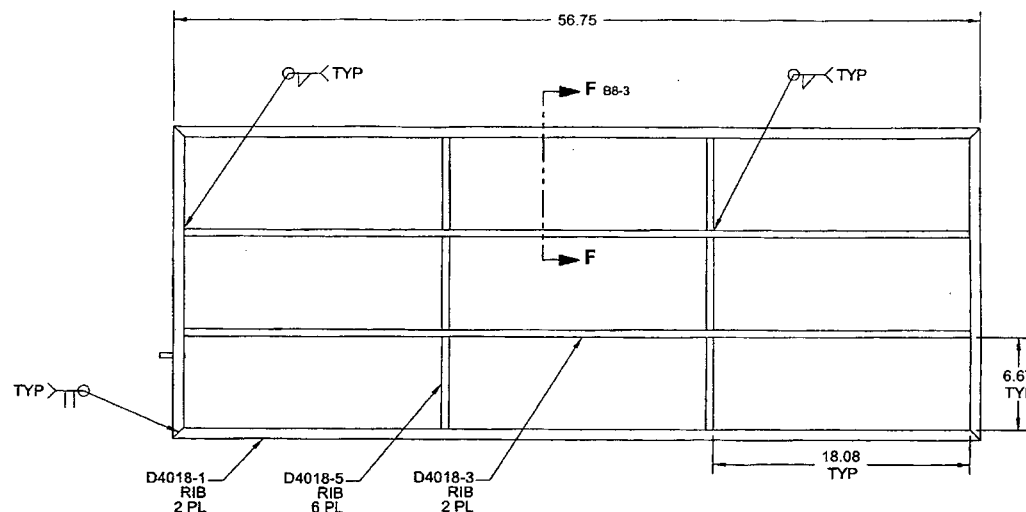
ITEM	QTY	P/N	DESCRIPTION
	X	D4018-101	TUBULAR ASSY, BASKET LID (350)
1	2	D4018-1	RIB
2	2	D4018-3	RIB
3	6	D4018-5	RIB
4	1	D4035-041	BASKET LID RIB ASSY, FWD
5	1	D4035-043	BASKET LID RIB ASSY, AFT

90301



D4035-041  
RIB ASSY, FWD

**SECTION F-F C3-3**



D4035-043  
RIB ASSY, AFT

**8 D4018-101 TUBULAR ASSY, BASKET LID (350)**

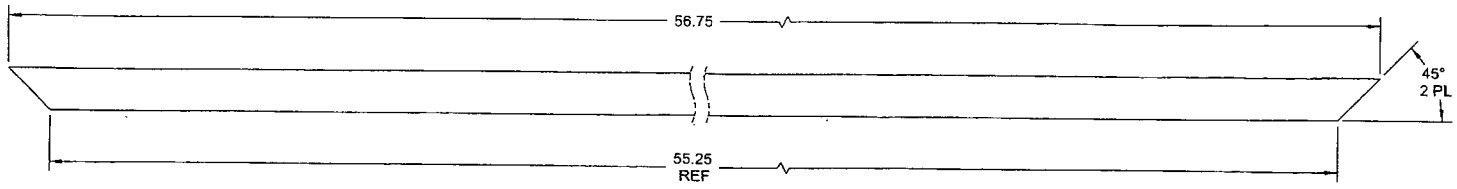
**RELEASED**  
10.08.05

**NOTES:**

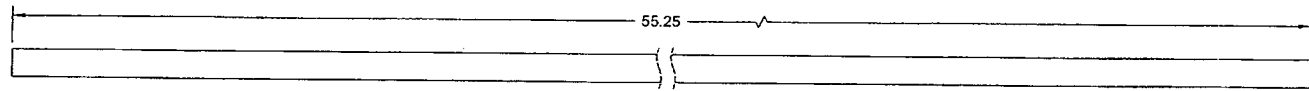
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 9.06 lbs
- 8) TOLERANCE FOR XX.XX DIMENSIONS  $\pm 0.06$  FOR D4018-101
- 9) WELD PER DART QSI 004

DESIGN	ALS	<b>DART AEROSPACE LTD</b>	
DRAWN	JC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	SC	DRAWING NO. D4018	REV. C
MFG. APPR.			SHEET 3 OF 4
APPROVED	WJ	TITLE	SCALE
DE APPR.		<b>SHORT BASKET LID ASSY (350)</b>	NTS
DATE	10.08.05	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

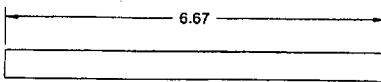
90301



**D4018-1 RIB**



**D4018-3 RIB**



**D4018-5 RIB**

**NOTES:**

- 1) MATERIAL -1: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBE, 0.75 X 0.75 X 0.049 WALL  
REF DART SPEC. M304TS0.750W.049
- 3 & -5: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBE, 0.50 X 0.50 X 0.049 WALL  
REF DART SPEC. M304TS0.500W.049
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: SEE ASSEMBLED WEIGHTS

**RELEASED**  
(10.08.12 UP)

DESIGN	AS	<b>DART AEROSPACE LTD</b>	
DRAWN	JS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ISC	DRAWING NO.	REV. C
MFG. APPR.	JS	<b>D4018</b>	SHEET 4 OF 4
APPROVED	JS	TITLE	SCALE
DE APPR.	JS	<b>SHORT BASKET LID ASSY (350)</b>	NTS
DATE	10.08.05	COPYRIGHT © 2010 BY DART AEROSPACE LTD	

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE DISCLOSED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.